DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SCOBIE POND		Lake Area (ha):	10.76
Town: LONDONDE	RRY	Maximum depth (m):	7.9
County: Rockingha	am	Mean depth (m):	3.6
River Basin: Merrimacl	τ	Volume (m³):	388000
Latitude: 42°54'41'		Relative depth:	2.1
Longitude: 71°20'39'	' W	Shore configuration:	1.12
Elevation (ft):	375	Areal water load (m/yr)	: 3.97
Shore length (m):	1300	Flushing rate (yr ⁻¹):	1.10
Watershed area (ha):	90.6	P retention coeff.:	0.70
<pre>% watershed ponded:</pre>	0.0	Lake type: natura	l w/dam

BIOLOGICAL:	17 February 1998	18 June 1997
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 45%	ASTERIONELLA 35%
#2	UROGLENOPSIS 40%	(NET PHYTOPLANKTON
#3	ASTERIONELLA 10%	WAS SPARSE)
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		2.92
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA 48%	CONOCHILUS 49%
#2	LRG RND CILIATE SPP 17%	HOLOPEDIUM 15%
#3		CALANOID COPEPOD 13%
ROTIFERS/LITER	313	98
MICROCRUSTACEA/LITER	39	63
ZOOPLANKTON ABUNDANCE (#/L)	424	192
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		2.4
BOTTOM DISSOLVED OXYGEN (mg/L)	5.1	0.0
BACTERIA (E. coli, #/100 ml) #1		1
#2		4
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 2.4 Hypolimnion volume (m^3) : 36750 Anoxic volume (m^3) : 43500

CHEMICAL:			SCOBIE PO		
	17 February 1998 18 June 1997				
DEPTH (m)	2.0	5.0	1.0	3.0	6.0
pH (units)	5.7	5.4	6.0	5.3	5.6
A.N.C. (Alkalinity)	2.1	1.6	2.0	1.8	4.8
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.30	0.30	0.20	0.10	0.40
TOTAL PHOSPHORUS	0.012	0.010	0.015	0.026	0.028
CONDUCTIVITY (µmhos/cm)	61.1	73.2	59.9	57.9	64.2
APPARENT COLOR (cpu)	29	55	45	49	125
MAGNESIUM			0.60		
CALCIUM			2.5		
SODIUM			7.7		
POTASSIUM			0.54		
CHLORIDE	11	14	12		12
SULFATE	5	6	5		4
TN : TP	25	30	13		14
CALCITE SATURATION INDEX			4.6		

All results in mg/L unless indicated otherwise

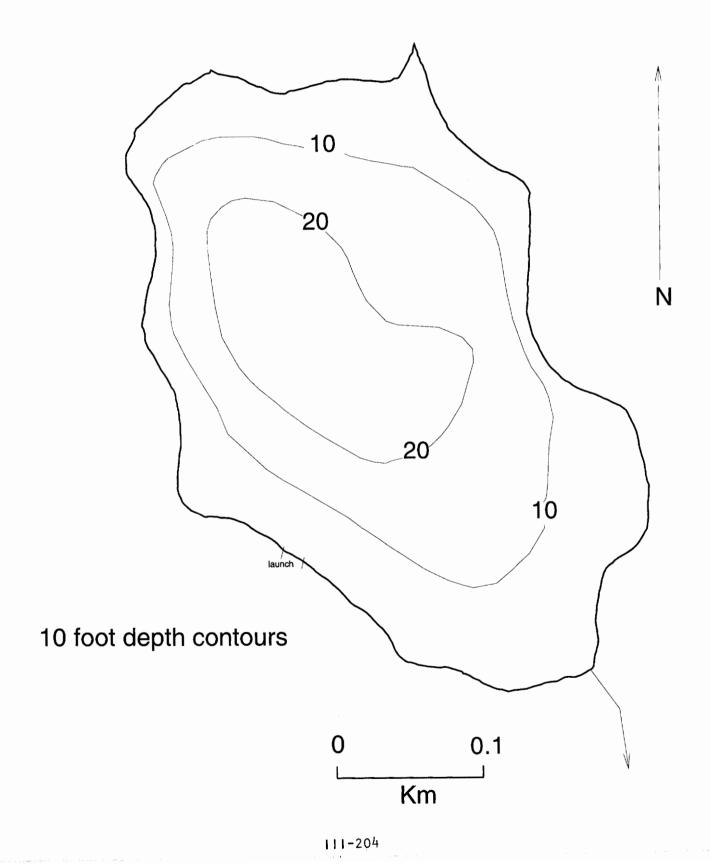
TROPHIC CLASSIFICATION: 1997

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	3	3	0	10	Meso.

COMMENTS:

- 1. A previous trophic survey of Scobie Pond in 1979 also classified the pond as mesotrophic. The major trophic parameter change between the two dates was in bottom dissolved oxygen. Despite an earlier sampling date in 1997, no oxygen was present below 5 meters. In 1979 the D.O. was greater than 2.5 mg/L all the way to the bottom (7 meters).
- 2. 10 mph speed limit.
- 3. Boat launch site was dirt/gravel and into shallow water. Parking was available for 5 cars & trailers. Trash was all over the launch site at the time of the summer sampling.
- 4. This is a moderately acidic tea-colored pond.

Scobie Pond Londonderry



FIELD DATA SHEET

LAKE: SCOBIE POND DATE: 06/18/97

TOWN: LONDONDERRY

WEATHER: CLOUDY; 70s

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	23.0	8.8	101 %
1.0	23.0	8.8	101 %
2.0	19.8	9.2	99 %
3.0	15.0	6.2	61 %
4.0	13.0	2.5	23 %
5.0	11.0	0.0	0 %
6.0	9.8	0.0	0 %
7.0	9.1	0.0	0 %
	4		

SECCHI DISK (m): 2.4 COMMENTS:

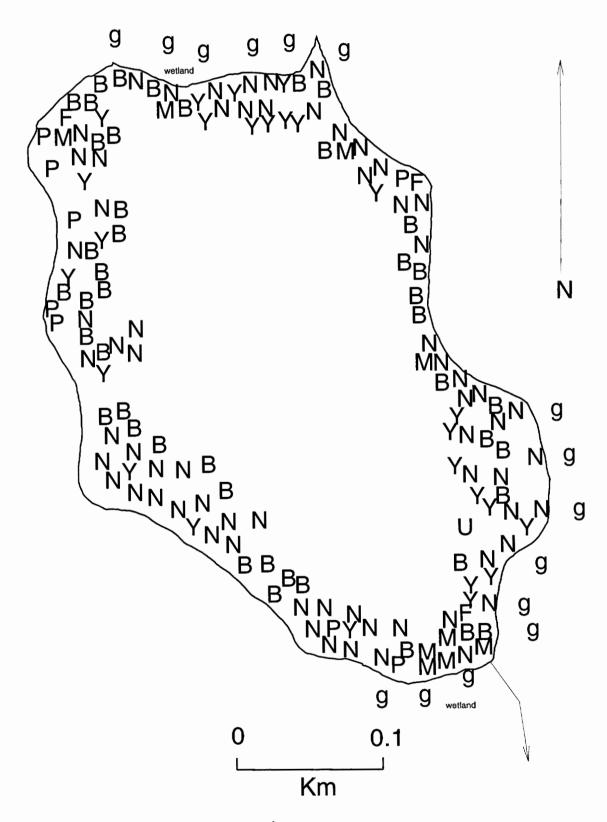
BOTTOM DEPTH (m): 7.5

TIME: 1045

*Dissolved oxygen values are in mg/L

Scobie Pond

Londonderry



AQUATIC PLANT SURVEY

LAK	E: SCOBIE POND	TOWN: LONDONDERRY	DATE: 06/18/97
Key	PLANT	NAME	ABUNDANCE
кеу	GENERIC	COMMON	ABUNDANCE
N	Nymphaea	White water lily	Common
Y	Nuphar	Yellow water lily	Sparse
В	Brasenia schreberi	Water shield	Common
M	Myriophyllum	Water milfoil	Scattered
P	Pontederia cordata	Pickerelweed	Sparse
F	Nymphoides cordatum	Floating heart	Sparse
U	Utricularia	Bladderwort	Sparse
g	Myrica gale	Sweet gale	Common
	l	I	

GENERAL OBSERVATIONS:

1. Plants were common around most of the shoreline.

2. Wetlands bordered the northern shore and the outlet area, dominated with sweet gale.

OVERALL ABUNDANCE: Common